

REMARKS

Amendments

Claims 1, 34, and 36 are amended to recite that in polymeric layer (2) the polymer “comprises” a graft copolymer having polyamide blocks, rather than “consists of”. This amendment does not require further significant search and/or consideration as the feature was already considered by the Examiner in the prior versions of claims 1, 34, and 36.

In addition, claims 1, 34, and 36 are amended to incorporate the ratio recited in the original version of claim 28, i.e., that the proportion by weight of polyolefin backbone to polyamide having an amine end group is 80/20 to 90/10. See also, for example, page 19, lines 6-8, and Example 1. This amendment also does not require further significant search and/or consideration as the feature was already considered by the Examiner in a prior version of claim 28.

Further, claims 1, 34 and 36 are amended to recite that the multilayer structure is in the form of a tube. See, e.g., page 4, lines 11-27. This amendment also does not require further significant search and/or consideration as the feature was already considered by the Examiner in the prior version of, for example, claim 6 and 8.

New claims 38-40 recite that the polymeric material of polymeric layer (2) consists of the graft copolymer having polyamide blocks. This amendment also does not require further search and/or consideration.

Entry of the amendments is respectfully requested.

Withdrawal of the Finality

In the Office Action of June 10, 2009 (which the Examiner acknowledges was a non-Final Office Action), **only** independent claims 1, 34, and 36 were rejected on grounds of obviousness type double patenting in view of claim 21 of Court et al. (US 6,875,520). In the Reply filed September 10, 2009, applicants amended claims 1, 34, and 36 to incorporate the features of claims 29, 35, and 37, respectively. These amendments involved replacing “comprises” with “consists of”. Claims 2-7, 10-18, 22, 24, 25, 27, 28, and 30-33 were **not** rejected on grounds of obviousness type double patenting in view of claim 21 of Court et al. (US 6,875,520).

In the instant Office Action, claims 2-7, 10-18, 22, 24, 25, 27, 28, and 30-33 (as well as claims 1, 34, and 36) are rejected on grounds of obviousness type double patenting in view of claim 21 of Court et al. (US 6,875,520). The rejection of claims 2-7, 10-18, 22, 24, 25, 27, 28, and 30-33 for obviousness type double patenting in view of claim 21 of Court et al. was not necessitated by any amendment made by applicants in the Reply filed September 10, 2009. The narrowing amendment made to claims 1, 34, and 36 did not necessitate a new ground of rejection being applied to claims 2-7, 10-18, 22, 24, 25, 27, 28, and 30-33.

Similarly, the Office Action of June 10, 2009 presented anticipation rejections of claims 1, 5, 28, 34, 36, and 37 in view of Court et al. The instant Office Action rejects claims 2-4, 6, 7, 10-18, 22, 24, 25, 27, and 30-33 (as well as claims 1, 5, 28, 34, and 36) as being anticipated in view of Court et al. The rejection of claims 2-4, 6, 7, 10-18, 22, 24, 25, 27, and 30-33 as being anticipated in view of Court et al. was not necessitated by any amendment made by applicants in the Reply filed September 10, 2009.

In view of the above remarks, withdrawal of the finality of the October 19, 2009 Office Action is respectfully requested.

Rejection under 35 USC 112, second paragraph

Claims 1, 33, 34, and 36 are rejected as being indefinite. This rejection is respectfully traversed.

In the rejection, it is asserted that the recitation of “least one polyamide graft from a polyamide having an amine end group” in claims 1, 33, 34, and 36 is indefinite. Applicants respectfully disagree.

One of ordinary skill in the art readily understands the concept of a polyamide graft, and further understands the concept of a polyamide having an amine end group. Thus, one of ordinary skill in the art can readily recognize whether a polyamide graft is one obtained from a polyamide having an amine end group. Therefore, since one of ordinary skill in the art can readily ascertain whether a given embodiment is within or outside the literal scope of the claim, the claim is definite. Nothing more is required under the statute.

Further, it is noted that claims 1, 34, and 36 all further recite that the grafts are attached to the polyolefin backbone by the residues of an unsaturated monomer (X) having a

ATOCM-0349

functional group capable of reacting with the polyamide having an amine end group. Such language makes it even clearer to one of ordinary skill in the art how the grafts are formed.

In light of the above, it is respectfully submitted that the language of the claims is sufficiently definite to one of ordinary skill in the art. Withdrawal of the rejection is respectfully requested.

Obviousness-Type Double Patenting

Claims 12-7, 10-18, 22, 24, 25, 27, 28, 30-34, and 36 are rejected on grounds of obviousness type double patenting in view of claim 21 of Court et al. (US 6,875,520). This rejection is respectfully traversed.

Throughout the rejection, references are made to the disclosure within the specification of Court et al. (US '520). This improper as an obviousness-type double patenting rejection **must be based on the disclosure of the claims**, not the disclosure within the specification. While the specification can be used as a dictionary to discern the meaning of a term in a patent claim, it is the claims that must be utilized in the rejection, not the specification. See, e.g., MPEP 804(II)(B)(1), wherein it is stated:

When considering whether the invention defined in a claim of an application would have been an obvious variation of the invention defined in the claim of a patent, **the disclosure of the patent may not be used as prior art.** *General Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 1279, 23 USPQ2d 1839, 1846 (Fed. Cir. 1992). (emphasis added)

Claim 21 of US '520 recites a "tarpaulin or geomembrane, comprising at least one layer of a blend as claimed in claim 1." Claim 1 of US '520 recites:

A polymeric blend consisting essentially of, by weight, the total being 100%:

1 to less than 100% of a polyamide graft copolymer consisting essentially of a polyolefin backbone and on average at least one polyamide graft per said polyolefin backbone, in which copolymer:

the grafts are attached to the backbone by the residues of an

unsaturated monomer (X) having a functional group capable of reacting with an amine-terminated polyamide,

the residues of the unsaturated monomer (X) are attached to the backbone by grafting or copolymerization from its double bond; and

99 to above 0% of a flexible polyolefin having an elastic flexural modulus of less than 150 MPa at 23°C and a crystalline melting point between 60°C and 100°C, said flexible polyolefin being an olefin homopolymer or a copolymer of at least one alpha-olefin and of at least one copolymerizable monomer being of a different alpha-olefin, an ester of an unsaturated carboxylic acid, a vinyl ester of a saturated carboxylic acid, an unsaturated epoxide, an unsaturated carboxylic acid or salt thereof or anhydride thereof, or a diene, said polymeric blend being characterized by an elastic modulus plateau above the melting point of the flexible polyolefin.

Claim 21 does not disclose or suggest a multilayer structure comprising (a) a first layer comprising a polyamide (A) or a polyamide (A)/polyolefin (B) blend having a polyamide matrix; (b) a further polymeric layer comprising a graft copolymer having polyamide blocks, the graft copolymer comprising a polyolefin backbone and at least one polyamide graft from a polyamide having an amine end group, and an optional tie layer in between. Nor does claim 21 of US '520 suggest such a multilayer structure in which in the further layer the proportion of the polyolefin backbone to the proportion of the polyamide having an amine end group in the graft copolymer is 80/20 to 90/10. Additionally, claim 21 does not suggest a multilayer structure in the form of a tube.

In view of the above remarks, it is respectfully submitted that claim 21 of US '520 fails to render obvious applicants' claimed invention. Withdrawal of the rejection is respectfully requested.

Rejection under 35 USC 102(e) in view of Court et al.

Claims 1-7, 10-18, 22, 24, 25, 27, 28, 30-34 and 36 are rejected as being anticipated in view of Court et al. (US 6,875,520). This rejection is respectfully traversed.

As described at column 2, lines 26-41, Court et al. disclose a polymeric "blend" comprising:

(a) a polyamide-block graft copolymer consisting of a polyolefin backbone and on average at least one polyamide graft, the grafts are attached to the backbone by the residues of

ATOCM-0349

an unsaturated monomer (X) having a functional group capable of reacting with an amine-terminated polyamide, the residues of the unsaturated monomer (X) are attached to the backbone by grafting or copolymerization from its double bond, and

(b) a flexible polyolefin having an elastic flexural modulus of less than 150 MPa at 23°C, and a crystalline melting point between 60-100°C.

In the rejection it is asserted that Court et al. disclose a multilayer structure comprising two layers of the polyolefin-polyamide graft copolymer. Applicants disagree. In support of this assertion, the rejection cites column 3, lines 4-10; column 5, lines 12-16; and column 6, lines 46-50 of the disclosure of Court et al.

At column 3, lines 4-10, Court et al. refer to tarpaulins or geomembranes that can be obtained by extruding the inventive blends of a graft copolymer and a flexible polyolefin. It Court et al. further disclose that these tarpaulins or geomembranes can consist of at least one layer of the above blends combined with a backing. At column 5, lines 12-16, Court et al. describe obtaining a polyamide-block graft copolymer by reacting an amine-terminated polyamide with residues of an unsaturated monomer (X) are attached to the polyolefin backbone by grafting or copolymerization.

At column 6, lines 46-50, Court et al. disclose an average of 1.3 to 7 mols of unsaturated monomer X per chain attached of polyolefin backbone. It is noted that applicants' claims recite an average of 1.3 to 7 moles of unsaturated monomer X attached to the polyolefin backbone per mole of chain.

In any event, Court et al. provide no disclosure or suggestion of a multilayer structure in the form of a tube. In view of the above remarks, it is respectfully submitted that

Rejection under 35 USC 103(a) in view of Schmitz et al. and Court et al.

Claims 1-4, 6-8, 10-18, 21, 22, and 24-35 are rejected as being obvious in view of Schmitz et al. (US 6,794,048) and Court et al. (US 6,875,520). This rejection is respectfully traversed.

It is evident from the prosecution that the Examiner and the applicants disagree about the disclosure of Schmitz et al. (US 6,794,048), particularly with regards to "mixture." Applicants still maintain their traversal of the interpretation of the disclosure of Schmitz et al. In any event, as discussed in more detail below, the Schmitz et al. disclosure, even if

ATOCM-0349

combined with the disclosure of Court et al., does not render obvious applicants' claimed invention.

Schmitz et al. (US 6,794,048) disclose a multilayer composite that comprises a polyamide layer and a polyolefin layer. These layers are joined by a bonding layer which does not consist of a functionalized polyolefin. The generic description of the multilayer composite of the Schmitz et al. invention comprises (see column 1, line 40 - column 2, line 2):

- (I) a layer I of a polyamide molding composition;
- (II) (II) a layer II of a bonding agent comprising at least 50% by weight, of a mixture of a) from 30 to 70 parts by volume of polyamide, and b) from 70 to 30 parts by volume of polyolefin, the sum of the parts by volume being 100, wherein at least some of the polyamide is present in the form of a polyamide-polyolefin graft copolymer or as a highly branched polyamine-polyamide copolymer; and optionally
- (III) a layer of a polyolefin molding composition. I

This ratio of 30-70 parts by volume to 70-30 parts by volume with the total sum being 100 parts is present throughout the Schmitz et al. disclosure. See, e.g., the embodiments disclosed by Schmitz et al. at column 3, lines 38-47, column 3, line 53 – column 4, line 11, and column 6, lines 28-38. Clearly, Schmitz et al. do not disclose or suggest a graft copolymer obtained by reacting 80-90 parts by weight of polyolefin with 20-10 parts by weight of polyamide having an amine end group.

The rejection makes reference to the disclosure of Example 1 of Court et al. with regards to a polyolefin backbone/polyamide having an amine end group ratio of 80/20 by weight. However, there is nothing within the combined disclosures that would lead one to select this ratio when seeking to optimize the ratio of 30-70 volume parts polyolefin to 70-30 volume parts polyamide ratio found throughout the Schmitz et al. disclosure. The strong teaching of Schmitz et al. of particular range of ratios would clearly dissuade one of ordinary skill in the art from utilizing a ratio outside that range. Nor is there any suggestion by either reference that it would be necessary to go outside the range disclosed by Schmitz et al. in order to achieve some advantageous effect.

In view of the above remarks, it is respectfully submitted that the disclosure of

ATOCM-0349

Schmitz et al., taken alone or in combination with the disclosure of Court et al., fails to render obvious applicants claimed invention. Withdrawal of the rejections is respectfully requested.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

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ATOCM-0349